

ATAL BHUJAL YOJANA (Atal Jal)

State: Maharashtra

Department : Ground water Surveys and Development Agency

HYDROGEOLOGICAL REPORT

BLOCK : Raver

DISTRICT : Jalgaon

YEAR : 2020

*Towards partial fulfillment of requirements for Disbursement of
Incentive under DLI -1*

DATE OF DISCLOSURE: ...25/11/2020

HYDROGEOLOGICAL REPORT

(YEAR : 2019-20)

STATE	:	<u>Maharashtra</u>
DISTRICT	:	<u>Jalgaon</u>
BLOCK/TALUK	:	<u>Raver</u>
BLOCK/TALUK HQs	:	<u>Raver</u>

A GENERAL INFORMATION									
1.	Geographical area (Ha)	:	<u>67892.95</u>						
2.	No. of Gram Panchayats	:	<u>91</u>						
3.	No. of towns	:	<u>1</u>						
4.	No. of villages	:	<u>117</u>						
5.	Population (2011)	:	<table border="1" style="width: 100%; text-align: center;"> <tr> <th>Male</th> <th>Female</th> <th>Total</th> </tr> <tr> <td><u>136669</u></td> <td><u>127790</u></td> <td><u>264459</u></td> </tr> </table>	Male	Female	Total	<u>136669</u>	<u>127790</u>	<u>264459</u>
Male	Female	Total							
<u>136669</u>	<u>127790</u>	<u>264459</u>							
6.	Rainfall (mm)	:	<table border="1" style="width: 100%; text-align: center;"> <tr> <th>Monsoon</th> <th>Non-monsoon</th> <th>Annual</th> </tr> <tr> <td><u>959.40</u></td> <td><u>62.10</u></td> <td><u>1021.50</u></td> </tr> </table>	Monsoon	Non-monsoon	Annual	<u>959.40</u>	<u>62.10</u>	<u>1021.50</u>
Monsoon	Non-monsoon	Annual							
<u>959.40</u>	<u>62.10</u>	<u>1021.50</u>							
7.	River basin	:	<u>Tapi</u>						
8.	Major soil types	:							

B LAND USE	
1.	Forest area (Ha) : <u>26017</u>
2.	Cultivable area (Ha) : <u>54518.04</u>
3.	Net sown area (Ha) : <u>54518.04</u>
4.	Gross cropped area (Ha) :

C CROPPING PATTERN (As in 2019-20)																											
1.	Major crops grown	:	<table border="1" style="width: 100%; text-align: center;"> <tr> <th>Kharif</th> <th>Rabi</th> <th>Summer</th> <th>Perennial</th> </tr> <tr> <td><u>Cotton</u></td> <td><u>Wheat</u></td> <td></td> <td><u>Banana</u></td> </tr> <tr> <td><u>Maze</u></td> <td><u>Gram</u></td> <td></td> <td></td> </tr> <tr> <td><u>Jawar</u></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table>	Kharif	Rabi	Summer	Perennial	<u>Cotton</u>	<u>Wheat</u>		<u>Banana</u>	<u>Maze</u>	<u>Gram</u>			<u>Jawar</u>											
Kharif	Rabi	Summer	Perennial																								
<u>Cotton</u>	<u>Wheat</u>		<u>Banana</u>																								
<u>Maze</u>	<u>Gram</u>																										
<u>Jawar</u>																											

D IRRIGATION FACILITIES (As in 2019-20)													
1.	Net irrigated area (Ha)	:	<u>24331.40</u>										
2.	Gross irrigated area (Ha)	:											
3.	Area under irrigation (Ha) (Source-wise)	:	<table border="1" style="width: 100%; text-align: center;"> <tr> <th>DW</th> <th>BW/TW</th> <th>Tanks/Ponds</th> <th>Canals</th> <th>Others</th> </tr> <tr> <td><u>24331.40</u></td> <td></td> <td></td> <td><u>0</u></td> <td></td> </tr> </table>	DW	BW/TW	Tanks/Ponds	Canals	Others	<u>24331.40</u>			<u>0</u>	
DW	BW/TW	Tanks/Ponds	Canals	Others									
<u>24331.40</u>			<u>0</u>										

E GEOLOGY & HYDROGEOLOGY			
1.	Predominant rocktype	:	Hard Rock
2.	Major geological formations	:	<u>Alluvium</u>

3.	Important water-bearing formations	:	Alluvium
4.	Status of coverage under NAQUIM	:	Not Covered.

F		GROUND WATER CONDITIONS						
1.	No. of wells used for WaterLevel (WL) monitoring.	:	Open wells			BW/TW/ PZ		
			CGWB	SGWD	Total	CGWB	SGWD	Total
			7	10	17			
2.	Monitoring mechanism (Nos.)	:	Manual		DWLR		Telemetry	
			CGWB	SGWD	CGWB	SGWD	CGWB	SGWD
			7	10				
3.	Monitoring frequency	:	Agency	No. of times monitored/year				
			CGWB	4				
			SGWD	4				
4.	Period of water level data availability.	:	Agency	Period of WL data availability (From - To)				
				From (year)		To (year)		
			CGWB	2015		2019		
			SGWD	2015		2020		
5.	Water level range (m.bgl)	:	Minimum/Village			Maximum/Village		
	Pre-monsoon (April-May 2019)		4.60/Lalmati			41.00/Waghoda Bk		
	Post-monsoon (November 2019)		0.10/Lalmati			25.00/Sawkheda Bk		
6.	Seasonal WL fluctuation range (m)	:	Minimum/ Village			Maximum/ Village		
			4/Lalmati			20/Lohare		

G		GROUND WATER QUALITY						
1.	No. of wells used for Water Quality (WQ) monitoring.	:	Open Wells			BW/TW/ PZ		
			CGWB	SGWD	Total	CGWB	SGWD	Total
			5	10	15	0	10	10
2.	Monitoring frequency	:	Agency	No. of times monitored/year				
			CGWB	0				
			SGWD	2 time (pre & post monsoon)				
3.	Period of water quality data availability	:	Agency	Period of WQ data availability (Years)				
			CGWB	2015-19				
			SGWD	2016-2019				
4.	Parameters analysed	:	Agency	Parameters Analysed				
			CGWB	Temperature ,pH, EC, TDS , Total Hardness , Alkalinity , Calcium , Chloride , Nitrate , Sulphate , Fluoride , Iron				
			SGWD	Temperature ,pH, EC, TDS , Total Hardness , Alkalinity , Calcium , Chloride , Nitrate , Sulphate , Fluoride , Iron				
5.	Known ground water quality issues, if any	:	No					

H.		GROUND WATER RESOURCES	
1.	Latest assessment year	:	2016-17
2.	Assessment Unit	:	Taluk/ Block/Watershed
3.	Annual extractable GW resource (ha.m)	:	9921.23

4.	Current annual GW extraction (ha.m)	<u>12548.37</u>			
5.	Net GW availability for future use (ha.m)	<u>0.0</u>			
6.	Stage of GW extraction (%)	<u>126.48</u>			
7.	Category of block/taluk/(2017)	<u>Over Exploited</u>			
8.	Category of block/taluk/ in previous assessments	2013	2011	2009	2004
		<u>OE</u>	<u>OE</u>	<u>OE</u>	<u>OE</u>

I WATER-RELATED SCHEMES	
1.	Schemes with a bearing on ground water, being implemented in the block / taluk.
Centrally Sponsored /Central Sector Schemes	i) <u>NRDWP Sastanibility</u>
	ii) <u>Jalshakti Abhiyan</u>
	iii)
	iv)
State Schemes	i) <u>Shivkalin</u>
	ii) <u>Jalyukta Shivar</u>
	iii)
	iv)

J GROUND WATER RELATED ISSUES	
1.	Ground water related issues of the block/
i) Issues related to GW availability	: <u>Taluka is in Over Exploited category</u>
ii) Issues related to GW quality	: <u>No</u>
iii) Other issues if any.	: <u>No</u>

TABLE-01

BASIC DATA OF WATER LEVEL (WL)/WATER QUALITY (WQ) WELLS LOCATIONS

STATE-MAHARASHTRA, DISTRICT-JALNA, TALUKA-RAVER

Sl. No	Well No.	Village Name	Long.	Lat.	Type of well (DW/BW/TW/PZ)	Reduced Level (m.amsl)	Aquifer tapped	Height of measuring point (m.agl)	Depth (m.bgl)	Diameter (m)	Purpose of monitoring (WL/ WQ / WL & WQ)	Monitoring mechanism (Manual/ DWLR/ Telemetry)	Agency
1	W211850076003701	Abore kh.	76.0138390	21.3214420	DW						WL	Manual	SGWD
2	W211530076032501	Bhokari	76.0603190	21.2572890	DW		Alluvium	0	17.7	5.3	WL	Manual	SGWD
3	W211547075542001	Chinchati	75.9077605	21.2619622	DW		Alluvium	0	35.7	5.2	WL	Manual	SGWD
4	W211755075592301	Lalmati	75.9897222	21.2986111	DW		Basalt	0.75	7.6	6.7	WL	Manual	SGWD
5	W211532075501801	Lohare	75.9339590	21.2618700	DW		Alluvium	0	35.4	3.5	WL	Manual	SGWD
6	W211830076000301	Mohgan bk.	76.1067370	21.2417810	DW		Alluvium	0.5	27.3	4	WL	Manual	SGWD
7	W211818076065701	Padle bk.	76.1158333	21.3050000	DW		Alluvium	0	15	3.4	WL	Manual	SGWD
8	W211448076021701	Raver	76.0380556	21.2466667	DW		Alluvium	0	31.2	2.9	WL	Manual	SGWD
9	W211303075543501	Savkheda kh.	75.9052778	21.2180556	DW		Alluvium	0.3	43.6	5	WL	Manual	SGWD
10	W210900075560001	Waghoda bk.	75.9277710	21.1711940	DW		Alluvium	0	43.55	3.8	WL	Manual	SGWD

TABLE-01-Continued													
Sl. No	Well No.	Village Name	Long.	Lat.	Type of well (DW/BW/TW/PZ)	Reduced Level (m.amsl)	Aquifer tapped	Height of measuring point (m.agl)	Depth (m.bgl)	Diameter (m)	Purpose of monitoring (WL WQ / WL & WQ)	Monitoring mechanism (Manual/ DWLR/Telemetry)	Agency
1	W210820075581001	Balvadi	75.969444	21.138889	DW	215			19.8				CGWB
2	W211211075591701	Vivra Bk	75.988056	21.203056	DW	242			60				CGWB
3	W211229075530001	Khiroda -2	75.883333	21.208056	DW	250			50				CGWB
4	W211250075530003	Khiroda -1	75.883333	21.213889	DW	249			53				CGWB
5	W211450076020401	Raver1	76.034444	21.247222	DW	256			34.25				CGWB
6	W211630076065801	Khanapur-1	76.116111	21.275	DW	272			25				CGWB
7	W211850076004001	Abhora Bk	76.011111	21.313889	DW	299			18.95				CGWB

TABLE-02													
WATER LEVEL (WL) DATA OF MONITORING WELLS-SGWD													
STATE-MAHARASHTRA, DISTRICT-JALNA, TALUKA- RAVER													
Sr.No.	Well ID	Well Type	Village	May-15	Oct-15	May-16	Oct-16	May-17	Oct-17	May-18	Oct-18	May-19	Oct-19
1	W211850076003701	DW	Abore kh.	7.9	2.1	6.3	1.8	7.5					
2	W211530076032501	DW	Bhokari	14.2	7.2	14.6	7	16.1	9.1	14	12.8	15.3	4
3	W211547075542001	DW	Chinchati	26.7	5.7	20.2	3.4	30.3	3.1	27	8.5	25.6	8.3
4	W211755075592301	DW	Lalmati	2.2	0.25	3.1	0.2	4.2	0.1	2.1	0.2	4.5	0.2
5	W211532075501801	DW	Lohare	35.4	15.9	34.2	14.5	34.5	11.6	33.2	24.5	33.3	11.3
6	W211830076000301	DW	Mohgan bk.	14.6	11.5	23.6	14.6	20		23.9	18.1	23.3	4.2
7	W211818076065701	DW	Padle bk.	7	3.9	11.3	3.2	10.1	5	8.3	8.7	12.4	4.1
8	W211448076021701	DW	Raver	22.7	14.8	30	14.5	28.2	16	26.1	18.5	25.7	18
9	W211303075543501	DW	Savkheda kh.	43.6	24.6	43.6	25	40		41	30.1	40.2	27.45
10	W210900075560001	DW	Waghoda bk.	29.5	36.1	40.1	34.8	38	31.1	36.9	33.3	40.2	36.6
TABLE-02-Continued													
WATER LEVEL (WL) DATA OF MONITORING WELLS-CGWB													
STATE-MAHARASHTRA, DISTRICT-JALGAON, TALUKA- RAVER													
Sr.No.	Well ID	Well Type	Village	May-15	Nov-15	May-16	Nov-16	May-17	Nov-17	May-18	Nov-18	May-19	Nov-19
1	W210820075581001	Dug Well	Balvadi	6.2	4.1	14.9	3.8	14.4	4.1	14.2	5.6	15.57	5.27
2	W211211075591701	Dug Well	Vivra Bk		28.4	29	31.97	35	34.26	36.9	37.3	46.05	35.7
3	W211229075530001	Dug Well	Khiroda -2		38.9	25	48.18	27.2	26.66	27.4	31.4	37.49	28.8
4	W211450076020401	Dug Well	Raver1	16.3	13.2	18	11.57	17.2	13.06	17.5	15.5	23.78	12.3
	W211630076065801	Dug Well	Khanapur-1		14.1		8.77		12.96	21.4	15	23.2	10.3

TABLE-03

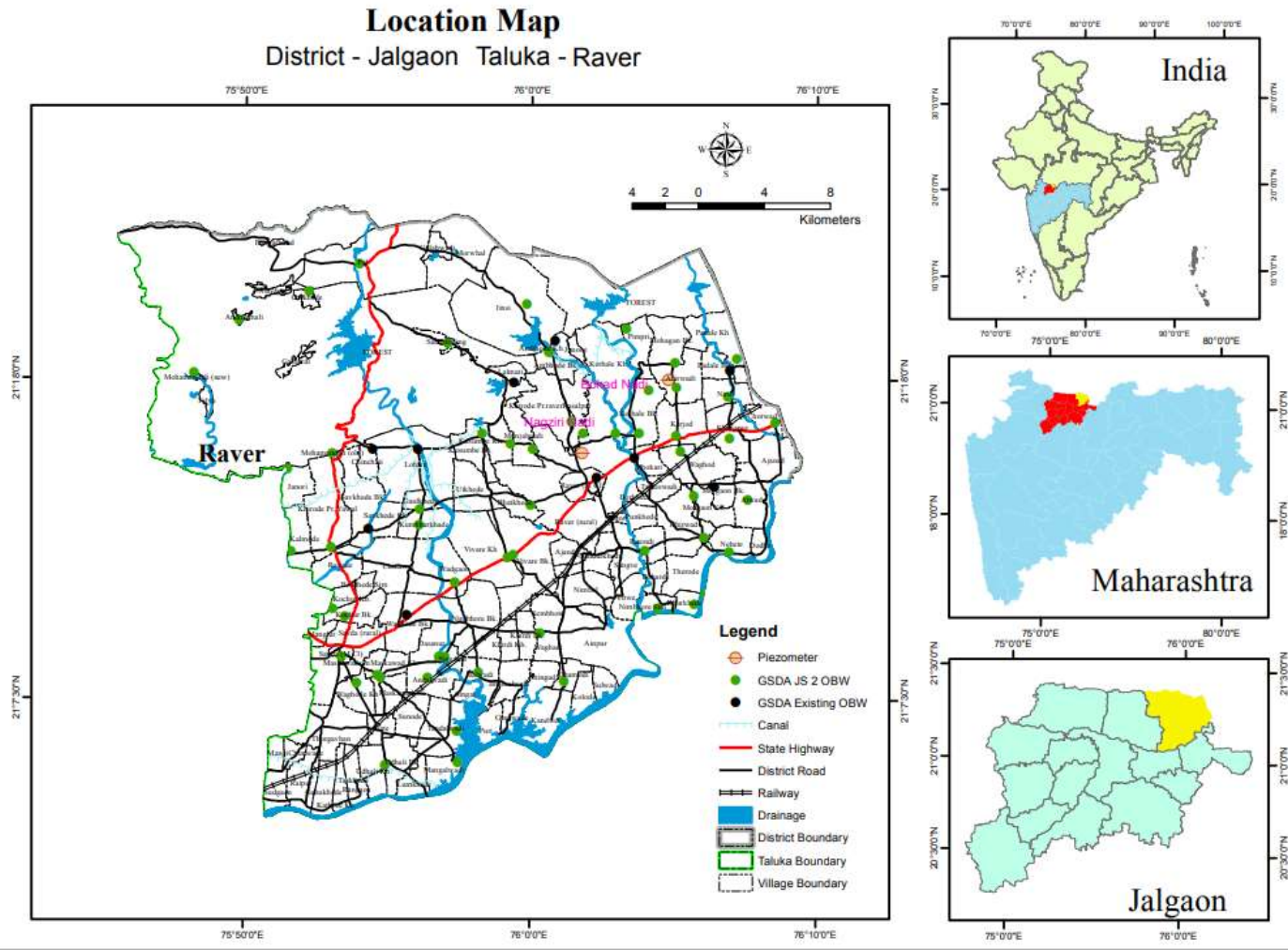
WATER QUALITY (WQ) DATA OF MONITORING STATIONS-SGW																		
STATE-MAHARASHTRA, DISTRICT-JALGAON, TALUKA- RAVAR																		
Sr. No.	Name of Village	Type of Source	Year	Sample Testing Date	Temp	pH		TDS (mg/L)	Alkalinity (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (mg/L)	Sulphate (mg/L)	Total Hardness (mg/L)	Iron (mg/L)	Ca (mg/L)	Mg (mg/L)	Remark
1	ABHODE BK.	TUBEWELL	17-18	05.12.2017	370C	8	829.00	539	180	54	0.36	10.184	8.898	200	1.589	NA	NA	UNIFT
2	ABHODE BK.	TUBEWELL	18-19	19.11.2018	370C	7.8	612.31	398	120	69.978	0.48	29.284	54.061	180	0.226	NA	NA	FIT
3	ABHODE BK.	TUBEWELL	19-20	12.06.2019	37° C	7.3	453.85	295	64	26	0.33	41.23	39.4	108	0.26	NA	NA	FIT
4	BHOKARI	OPEN WELL	17-18	24.05.2017	370C	8.21	1908.17	1240.3	330	234	0.421	38.005	25.883	560	0.09	NA	NA	FIT
5	BHOKARI	HANDPUMP	18-19	26.11.2018	370C	8.2	2384.62	1550	340	399.88	1.08	55.6	47.87	540	0.126	NA	NA	UNFIT
6	BHOKARI	OPEN WELL	19-20	10.01.2020	370C	7.5	2661.54	1730	320	164	0.063	24.18	100.02	612	1.39	NA	NA	UNFIT
7	CHINCHATI	TUBEWELL	17-18	05.12.2017	370C	7.6	885.00	575	290	59	0.516	10.255	11.935	240	0.191	NA	NA	FIT
8	CHINCHATI	TUBEWELL	18-19	19.11.2018	370C	8.4	661.54	430	120	59.981	0.26	22.954	45.119	200	0.14	NA	NA	FIT
9	CHINCHATI	TUBEWELL	19-20	12.06.2019	37° C	7.7	407.69	265	52	52	0.714	40.11	56.98	88	0.193	NA	NA	FIT
10	LALMATI	OPEN WELL	18-19	15.12.2018	370C	7.8	676.92	440	90	34.989	0.461	17.268	18.408	270	0.214	NA	NA	FIT
11	LALMATI	OPEN WELL	19-20	13.06.2019	37° C	7.1	449.23	292	64	52	0.323	40.26	49.12	108	0.14	NA	NA	FIT
12	LOHARE	TUBEWELL	17-18	05.11.2017	370C	7.5	1086.00	706	180	89	0.383	10.577	1.361	190	0.03	NA	NA	FIT
13	LOHARE	TUBEWELL	19-20	11.06.2019	37° C	7.9	438.46	285	64	26	0.75	42.23	54.39	108	0.21	NA	NA	FIT
14	MOHAGAN	OPEN WELL	16-17	26.05.2016	370C	8.4	1270.26	825.67	136	110	0.8	49.5	NA	510	0.14	NA	NA	UNFIT
15	MOHAGAN	HANDPUMP	17-18	25.05.2017	370C	8.2	2608.00	1695	290	214	0.523	7.407	30.157	350	0.13	NA	NA	FIT
16	MOHAGAN	HANDPUMP	18-19	05.11.2018	370C	8.3	1895.38	1232	150	199.94	0.341	23.12	19.096	550	0.051	NA	NA	FIT
17	MOHAGAN	HANDPUMP	19-20	25.06.2019	37° C	8.3	1350.77	878	268	106	0.407	40.11	50.68	384	0.15	NA	NA	FIT

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18	PADALE BK.	HANDPUMP	17-18	26.05.2017	370C	7.5	2600.00	1690	280	137	0.415	45.551	28.47	290	0.015	NA	NA	UNIFT
19	PADALE BK.	HANDPUMP	18-19	05.08.2018	370C	8.4	1464.62	952	260	199.94	0.579	48.579	64.493	500	0.077	NA	NA	UNFIT
20	PADALE BK.	OPEN WELL	19-20	13.01.2020	370C	7.3	798.46	519	140	64	0.314	39.003	33.969	188	0.629	NA	NA	FIT
21	SAVKHEDE BK.	BOREWELL	16-17	14.12.2016	370C	7.88	975.38	634	120	27.297	0.113	44.234	NA	270	0.005	NA	NA	FIT
22	SAVKHEDE BK.	BOREWELL	17-18	16.12.2017	370C	7.5	1012.31	658	300	99	BDL	18.18	25.86	320	0.35	NA	NA	FIT
23	SAVKHEDE BK.	BOREWELL	18-19	05.11.2018	370C	8.1	892.31	580	160	74.977	0.327	26.11	31.362	330	0.22	NA	NA	FIT
24	SAVKHEDE BK.	BOREWELL	19-20	15.05.2019	37° C	8	949.23	617	132	72	0.662	24.23	40.17	268	0.25	NA	NA	FIT
25	WAGHODE BK.	HANDPUMP	16-17	20.06.2016	370C	8.2	1032.34	671.02	140	90	0.86	39.98	NA	380	0.18	NA	NA	FIT
26	WAGHODE BK.	TUBEWELL	17-18	06.03.2017	370C	8.2	1000.00	650	340	84	0.518	38	NA	230	BDL	NA	NA	FIT
27	WAGHODE BK.	TUBEWELL	18-19	16.11.2018	370C	8	600.00	390	120	54.983	0.29	20.57	35.604	150	0.28	NA	NA	FIT
28	WAGHODE BK.	TUBEWELL	19-20	11.06.2019	37° C	7.3	850.77	553	92	52	0.663	26.12	34.18	296	0.43	NA	NA	FIT
29	WAGHODE KH	TUBEWELL	16-17	14.12.2016	370C	8.32	1856.92	1207	410	155.98	0.6	46.79	NA	570	0.262	NA	NA	UNFIT
30	WAGHODE KH	TUBEWELL	17-18	06.06.2017	370C	7.8	1938.03	1259.7	540	214	0.389	54.573	NA	400	0.759	NA	NA	UNIFT
31	WAGHODE KH	TUBEWELL	18-19	01.11.2018	370C	7.8	2400.00	1560	200	539.83	0.178	50.4	29.07	380	0.031	NA	NA	UNFIT
32	WAGHODE KH	TUBEWELL	19-20	20.01.2020	370C	7.3	1644.62	1069	248	156	0.234	30.21	42.632	424	0.1	NA	NA	FIT

TABLE-03- Continued																
WATER QUALITY (WQ) DATA OF MONITORING STATIONS-CGWB																
STATE-MAHARASHTRA, DISTRICT-JALGAON, TALUKA- RAVER																
Sr.No.	Well No./Locaton	Well Type	Village	Date of Testing	Temp	EC (µS/cm)	pH									
								Ca	Mg	Na	K	HCO3	CL	SO4	NO3	F
1	W210820075581001		Balvadi	5/21/2016		811	8	46	52.09	37	0.5	303	27	26	29	0.14
2	W210820075581001		Balvadi	5/21/2015												
3	W210820075581001		Balvadi	5/21/2015		554	8.1	56	28.03	52	1.72	354	64	7	10	0.13
4	W211211075591701		Vivra Bk	5/21/2016		1355	8	102	71.36	56	1.9	488	123	94	35	0.08
5	W211211075591701		Vivra Bk	5/21/2017		1273	8	51	77.01	52	1.2	345	93	50	50	0.12
6	W211229075530001		Khiroda -2	5/21/2016		1397	8	60	88.33	79	0.2	498	105	87	34	0.29
7	W211229075530001		Khiroda -2	5/21/2017		780	8.4	31	43.19	85	0.4	351	26	13	41	0.44
8	W211450076020401		Raver1	5/21/2015		974	8	50	57.2	38	0.47	256	131	34	32	0.29
9	W211450076020401		Raver1	5/21/2015												
10	W211450076020401		Raver1	5/21/2017		1076	8.2	41	35.91	138	0.6	476	53	30	64	0.2
11	W211450076020401		Raver1	5/21/2016		1110	8.1	56	52.1	91	0.2	351	85	155	37	0.18
12	W211630076065801		Khanapur-1	5/21/2017		1063	8.7	12	39.89	135	0.6	398	58	38	20	0.68

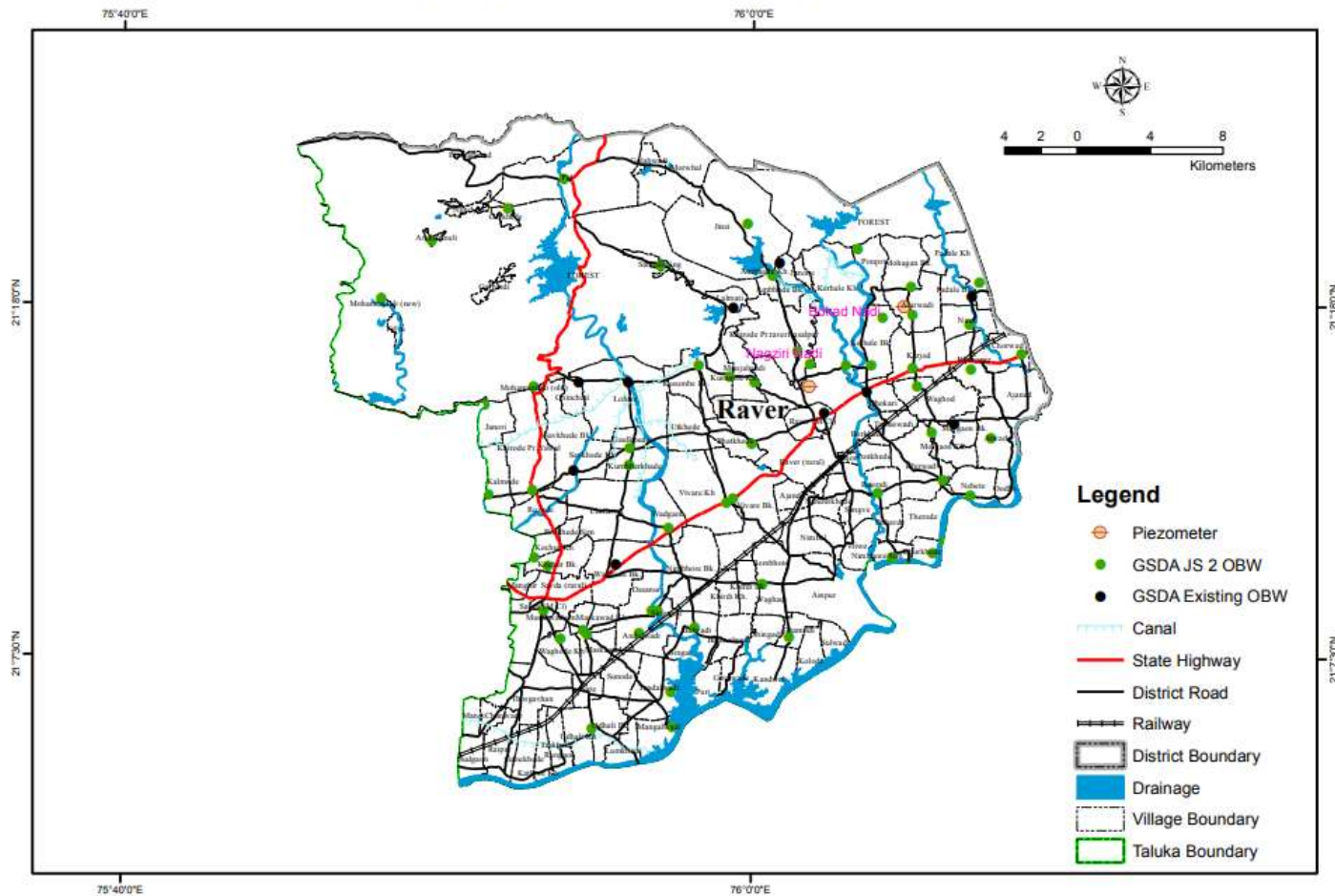
MAP-01-LOCATION MAP



MAP-02-BASE MAP

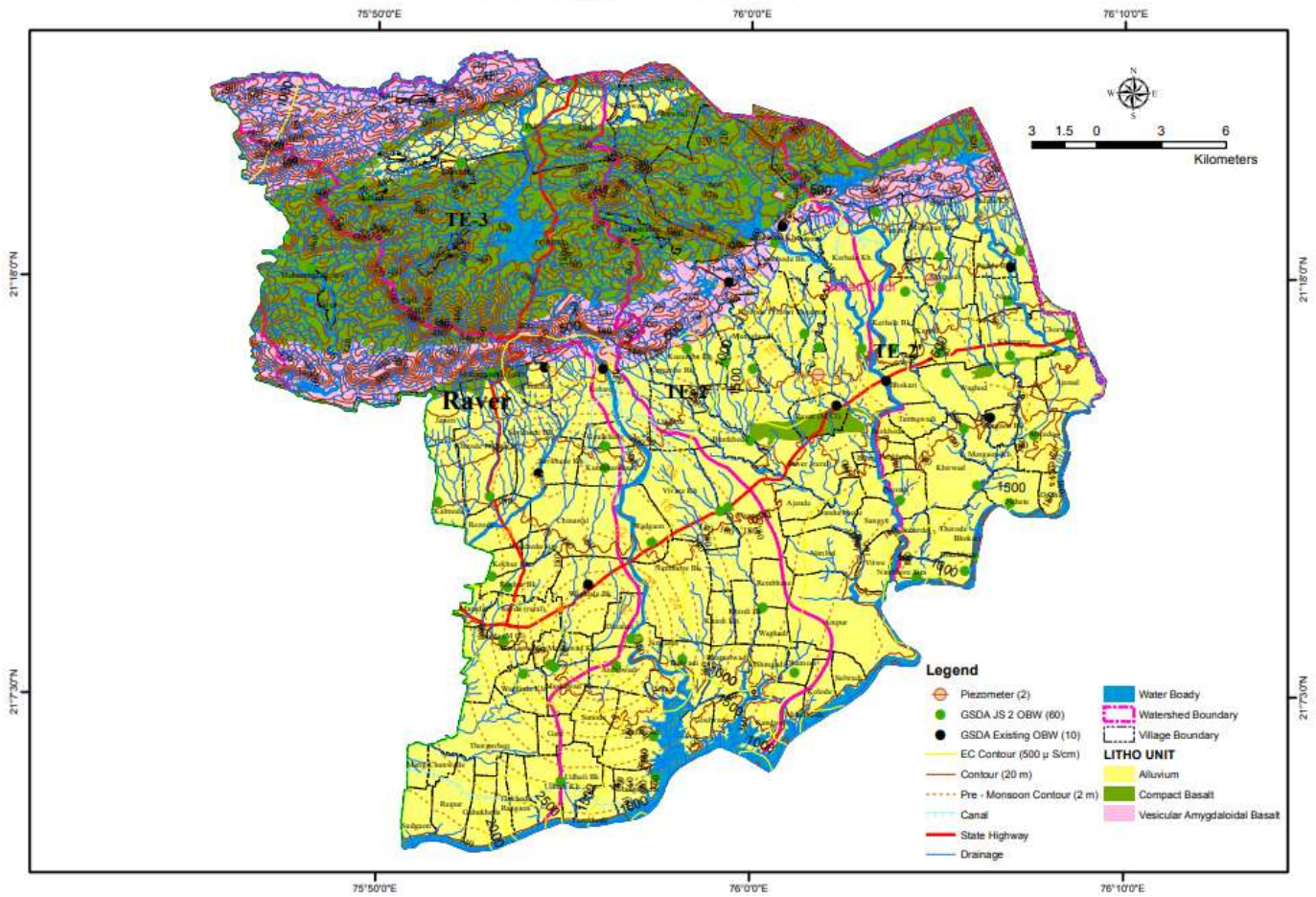
Base Map

District - Jalgaon Taluka - Raver

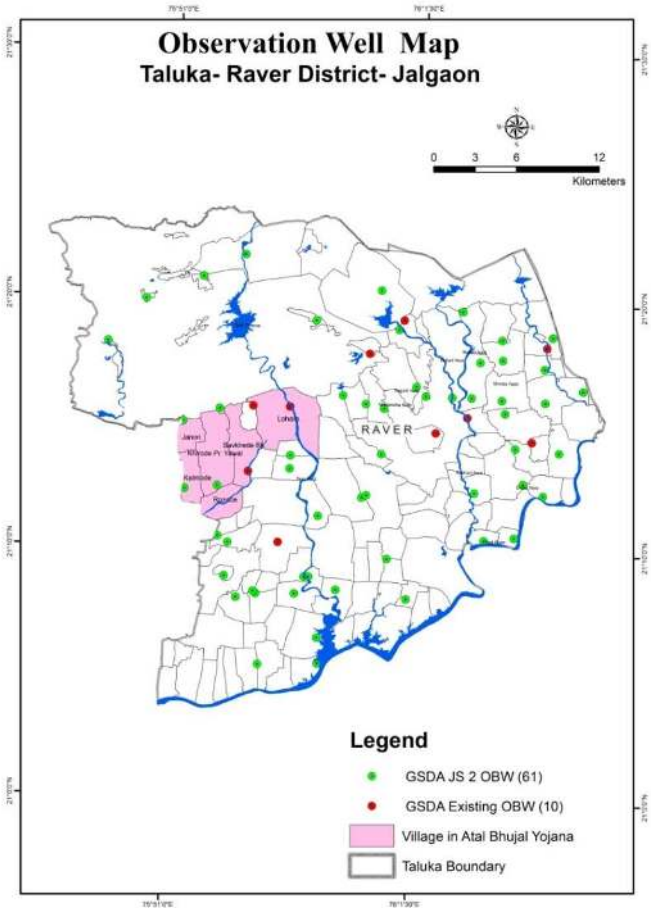


MAP-03-HYDROGEOLOGICAL MAP

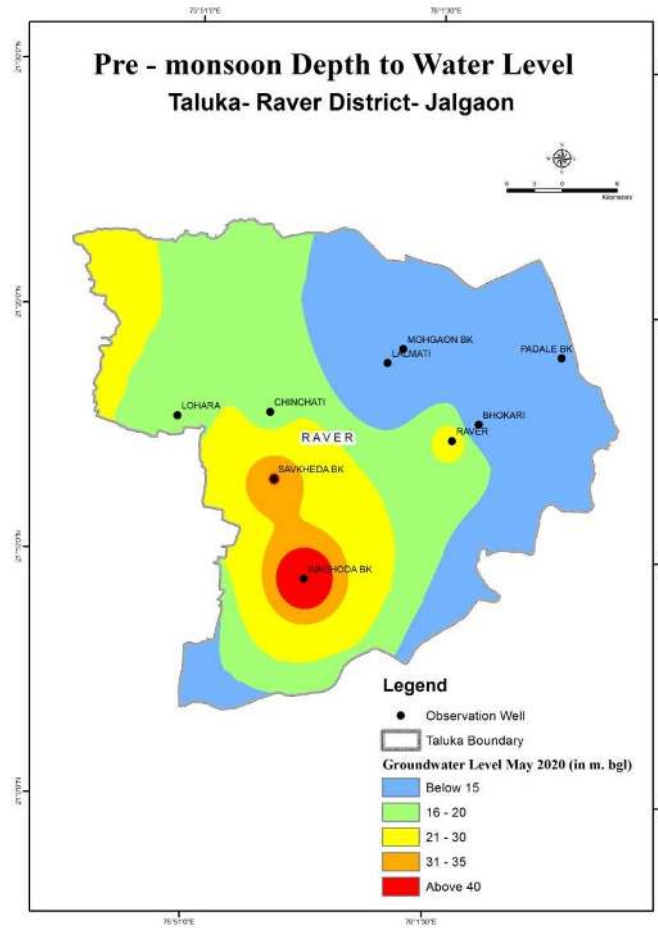
Hydrogeological Map
District - Jalgaon Taluka - Raver



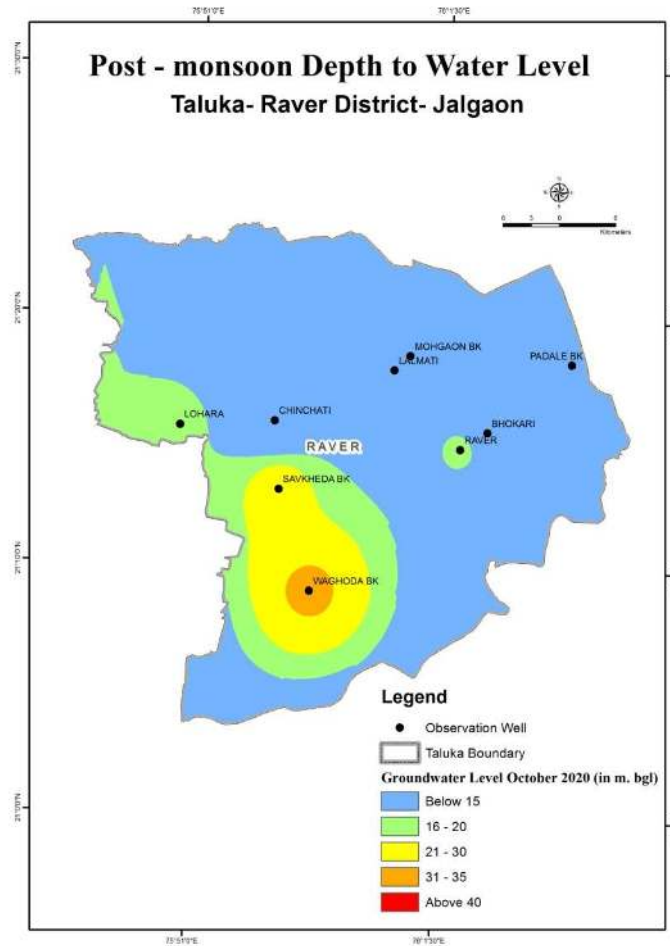
MAP-04-LOCATION OF OBW MAP



MAP-05-PRE-MONSOON GWL MAP



MAP -06- POST-MONSOON GWL MAP



MAP NO-06-GW ELECTRIC CONDUCTIVITY MAP

Distribution of Electrical Conductivity Map
District - Jalgaon Taluka - Raver

